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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,194	03/17/2004	Roman Heckt	10541-1989	3418
29074	7590	08/18/2005	EXAMINER	
VISTEON C/O BRINKS HOFER GILSON & LIONE PO BOX 10395 CHICAGO, IL 60610			FORD, JOHN K	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/802,194	Applicant(s) HECKT ET AL.	
	Examiner John K. Ford	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/25/05
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 7,8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/7/04</u> | 6) <input type="checkbox"/> Other: _____ |

Applicant's election of the species of Figure 4, without traverse, is acknowledged.

Applicant has identified claims 1-6 as being readable on the elected species.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1-6, in the instant application it is not explained how the coolant fluid in collector region 9 flows into and out of pipes 6 in Figure 4 and then to the external connection(s) of coolant circuit 1 shown in Figure 1. In other words, if coolant enters collector region 9 from the coolant tubes 6 shown in Figure 4, where does the coolant enter those tubes? There doesn't appear to be an operative coolant circuit for the coolant disclosed with regard to the passage of coolant to and from collector region 9. If applicant maintains otherwise, please explain the precise flow path that the coolant follows from the inlet to the outlet of the collector region and why the coolant doesn't just flow through the collector region without circulating through any of the tubes 6.

Regarding claim 2, there is no disclosure of any control system that maintains the temperature difference below 25 degrees K. At minimum, it is submitted that such a control system would require temperature sensors of some undisclosed type located at some undisclosed location controlling undisclosed valves in some undisclosed manner.

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In short, applicant has indicated some desired performance criterion without providing even the most rudimentary disclosure of how this would be done in practice. It is submitted that it would not be all that predictable a control system given that the flow of one heat exchange material (coolant or refrigerant) would likely influence the temperature of the other heat exchange material (refrigerant or coolant, respectively) in addition to the heat exchanger itself. As well, the temperature as well as flow rate of the third heat exchange material (air) would influence the temperature of the other two. Given these multi-variable problems it would not be a particularly easy control problem to solve to assure temperature differences of less than 25 degrees K. If applicant maintains otherwise evidence (patents or publications etc) showing these control systems to be known is required in response to this action. Conclusory argument, unsupported such evidence will not be sufficient.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-6 have been construed here to be directed to a heat exchanger, per se. There is present in the claims much functional language regarding the intended manner of operation and that has not been given weight in assessing the patentability of the heat exchanger itself, consistent with MPEP 2114, incorporated here by reference. Even with all of that said (and none of that constitutes the 35 USC 112 problem),

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applicant claims that there are “first” heat exchange surfaces for the additional heating and “second” heat exchange for cooling plant operation. Are these first and second surfaces really just the same surfaces (during two different operating modes)? The claims are submitted to be drawing an artificial distinction between structures within the heat exchanger that are in fact the same structure – rendering the claims confusing.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Loup (USP 5,884,696).

Loup shows a heat exchanger assembly (Fig 1). One set of pockets (1 or 2), defined by plate pairs 5 and 6 and extending vertically downward from the top of the heat exchanger assembly, is adapted to receive engine coolant from the engine coolant circuit and the other set of pockets (2 or 1, respectively) defined by plate pairs 5 and 6

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and extending vertically upward from the bottom of the heat exchanger assembly, is adapted to receive refrigerant from the refrigerant circuit. While Loup doesn't explicitly teach the intended manner of operation of applicant's device, in claims drawn to the apparatus, such intended manner of operation limitations are not given patentable weight as explained in detail in MPEP 2114, incorporated here by reference.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Loup as applied to claim 1 above, and further in view of Khelifa (US 2001/0001982) or Ben Fredj (US 6,810,952).

To have made the compound radiator/evaporator 3 of Khelifa in the manner taught by Loup to minimize the use of space in the vehicle would have been obvious to one of ordinary skill in the art. Likewise, to have made the evaporator/radiator (10, 20) of Ben Fredj in the manner taught by Loup to minimize the use of space in the vehicle would have been obvious to one of ordinary skill in the art.

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Herz (Canada 610,005) or Miura (JP 61-049992).

Herz shows a heat exchanger having upper and lower headers 6 and 7 adapted to be connected to a coolant circuit of an engine and headers 14 and 15 adapted to be

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connected to a refrigerant circuit. Multiple rows of tubes arranged after each other in the direction of the passing airflow are shown most clearly in Figure 2. Air is passed “parallelly” over the coolant tubes and the refrigerant tubes and the tubes are arranged alternatingly next to each other.

Miura shows a heat exchanger having upper and lower headers 5 and 6 adapted to be connected to a coolant circuit of an engine and header 11 and an exit header pipe (not legended) adapted to be connected to a refrigerant circuit. Multiple rows of tubes arranged after each other in the direction of the passing airflow are shown most clearly in Figure 2. Air is passed “parallelly” over the coolant tubes and the refrigerant tubes and the tubes are arranged alternatingly next to each other.

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herz or Muira as applied to claim 1 above, and further in view of Khelifa (US 2001/0001982) or Ben Fredj (US 6,810,952).

To have made the compound radiator/evaporator 3 of Khelifa in the manner taught by Herz or Muira to minimize the use of space in the vehicle would have been obvious to one of ordinary skill in the art. Likewise, to have made the evaporator/radiator (10, 20) of Ben Fredj in the manner taught by Herz or Muira to minimize the use of space in the vehicle would have been obvious to one of ordinary skill in the art.

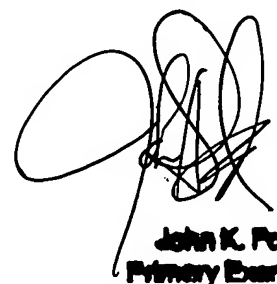
Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hoshina (JP 5-272882).

Hoshina shows a heat exchanger having separate flow paths for two separate fluids in addition to the air. In the case of Figures 5 and 6 variants of the basic device of Figure 1 are shown in which the collectors (2, 3) for one heat exchange fluid at least partially surrounds the header for the other heat exchange fluid (3, 2, respectively).

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshina as applied to claims 1 and 6 above, and further in view of Khelifa (US 2001/0001982) or Ben Fredj (US 6,810,952).

To have made the compound radiator/evaporator 3 of Khelifa in the manner taught by Hoshina to minimize the use of space in the vehicle would have been obvious to one of ordinary skill in the art. Likewise, to have made the evaporator/radiator (10, 20) of Ben Fredj in the manner taught by Hoshina to minimize the use of space in the vehicle would have been obvious to one of ordinary skill in the art.

Any inquiry concerning this communication should be directed to John K. Ford at telephone number 571-272-4911.



John K. Ford
Primary Examiner